

# Primary and Secondary Syphilis in the United States

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**T**HE REPORTED incidence of primary and secondary syphilis in the United States continued to increase sharply and steadily during the 1959 and 1960 fiscal years following a slight increase in 1958. The increase continued in the first 9 months of fiscal year 1961; 14,019 cases of primary and secondary syphilis were reported during that period. Prior to 1958, a level trend appeared to be developing in the United States following the continuous decline from the postwar peak year of 1947 with the advent of mass penicillin chemotherapy. Figure 1 compares the trend of primary and secondary syphilis and gonorrhea case rates in the United States during fiscal years 1941 through 1960. The reported incidence rate of gonorrhea has only increased moderately during 1959 and 1960 in comparison with the increase in the reported incidence rate of primary and secondary syphilis.

Venereal disease control personnel are confronted with the implications of the reported level of 12,000 cases in 1960 to a projected 19,000 cases in 1961 in the United States. What do the reported increases mean in terms of the present control program and what additional control measures are needed? Some statistical data on a national scope related to this situation are presented in this report.

## Source of Morbidity Reports

Morbidity reports are received from private physicians as well as from health department-sponsored clinics, hospitals, and other non-health department institutional facilities, since primary and secondary syphilis are reportable in every State.

While it is recognized that morbidity reporting practices vary from State to State and under-reporting definitely occurs, private physicians reported about 36 percent of the primary and secondary syphilis morbidity in the United States in fiscal year 1960. In more detail, 39 percent of the male primary and secondary syphilis morbidity and 29 percent of the female primary and secondary syphilis morbidity were reported by private physicians. It is difficult to determine the extent of improvement in morbidity reporting by private physicians without baselines, which at present are not available in most States. However, the percentage increases in reported cases of primary and secondary syphilis were approximately the same from both reporting sources in 1959 and 1960 in the United States (table 1).

## Geographic Distribution

The geographic distribution of reported primary and secondary syphilis cases per 100,000 population in the fiscal years 1958-60 is shown in table 2. The continuous increases in case rates in States which already were experiencing a high level of infectious syphilis, and subsequently the States on their peripheries, suggest that an actual increase in the incidence of the disease occurred along with possible improvement in reporting of cases (fig. 2).

During the 1958-60 period, reported case rates continued to increase significantly for 2 con-

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secutive years in Louisiana, New York, Tennessee, Alabama, California, New Jersey, Washington, North Carolina, and Pennsylvania. In 1960, nine additional States—Arizona, Florida, Illinois, Texas, Virginia, Oregon, Michigan, Minnesota, and Ohio—reported significant increases in primary and secondary syphilis morbidity over the previous year.

A simple approximation assuming a Poisson probability distribution was used to estimate the error in the tests of significance (1). Differences between rates were regarded as significant at the 5 percent level with nonindependence limitations.

In many States which reported increases in infectious syphilis, most of the morbidity was reported from the large urban centers. Primary and secondary syphilis case rates for cities with 200,000 population and over in the 1950 census for fiscal years 1958-60 are presented in table 3.

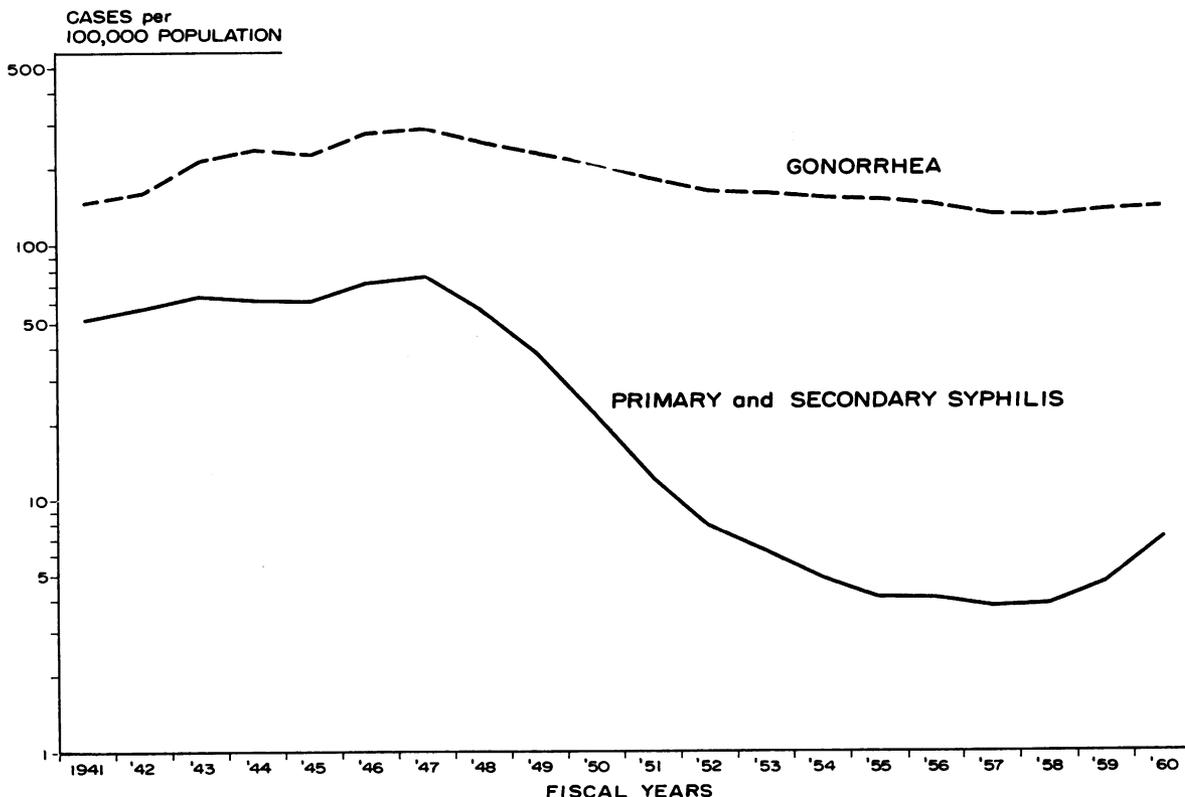
The eight cities reporting significant increases in reported primary and secondary syphilis in-

**Table 1. Primary and secondary syphilis cases, by reporting source, United States, 1954-60**

Fiscal year	Private physicians	Clinics, hospitals, other institutions	All sources
1954-----	3,401	4,287	7,688
1955-----	2,968	3,548	6,516
1956-----	2,918	3,839	6,757
1957-----	2,573	3,678	6,251
1958-----	2,466	4,195	6,661
1959-----	3,110	5,068	8,178
1960-----	4,710	7,761	12,471

cidence for 2 consecutive years during the 1958-60 period are coastal cities, with the exception of Washington, D.C. Among these cities, in 1960, Miami had the highest primary and secondary syphilis case rate, with 64 cases per 100,000 population. Ranking next were New Orleans, Washington, D.C., Newark, New York City, Los Angeles, Seattle, and Philadelphia. These cities accounted for one-third of the pri-

**Figure 1. Primary and secondary syphilis and gonorrhea cases per 100,000 population, United States, fiscal years 1941-60**



**Table 2. Primary and secondary syphilis reported by State health departments during fiscal years, 1958-60**

States	1958		1959		1960	
	Cases	Rate <sup>1</sup>	Cases	Rate <sup>1</sup>	Cases	Rate <sup>1</sup>
United States.....	6, 661	3. 9	8, 178	4. 7	12, 471	7. 1
Alabama.....	179	5. 7	252	7. 9	317	10. 0
Alaska.....	4	2. 4	3	1. 8	4	2. 5
Arizona.....	84	7. 6	98	8. 8	200	16. 5
Arkansas.....	154	8. 8	214	12. 2	194	11. 2
California.....	611	4. 5	904	6. 5	1, 209	8. 4
Colorado.....	32	2. 0	30	1. 8	32	1. 9
Connecticut.....	50	2. 2	70	3. 0	80	3. 3
Delaware.....	22	5. 1	48	10. 8	35	7. 8
District of Columbia.....	150	18. 5	194	24. 1	472	57. 6
Florida.....	207	5. 2	246	5. 7	450	9. 6
Georgia.....	649	17. 6	757	20. 2	740	19. 6
Hawaii.....	2	. 4	14	2. 4	5	. 8
Idaho.....	11	1. 7	1	. 2	7	1. 1
Illinois.....	577	6. 0	642	6. 5	936	9. 2
Indiana.....	87	1. 9	83	1. 8	82	1. 8
Iowa.....	18	. 6	14	. 5	13	. 5
Kansas.....	13	. 6	61	2. 9	61	2. 9
Kentucky.....	61	2. 0	60	2. 0	82	2. 7
Louisiana.....	62	2. 1	246	8. 0	685	21. 8
Maine.....	5	. 5	1	. 1	4	. 4
Maryland.....	277	9. 8	238	8. 2	272	9. 2
Massachusetts.....	256	5. 3	245	5. 1	225	4. 6
Michigan.....	83	1. 1	79	1. 0	146	1. 8
Minnesota.....	15	. 5	28	. 8	50	1. 5
Mississippi.....	69	3. 2	76	3. 5	94	4. 3
Missouri.....	63	1. 5	74	1. 7	92	2. 2
Montana.....	6	. 9	18	2. 6	21	3. 1
Nebraska.....	5	. 4	2	. 1	17	1. 2
Nevada.....	8	3. 1	8	3. 1	14	5. 1
New Hampshire.....	8	1. 4	2	. 4	3	. 5
New Jersey.....	102	1. 8	279	4. 9	435	7. 4
New Mexico.....	68	8. 5	59	7. 2	41	4. 8
New York.....	908	5. 7	1, 192	7. 4	2, 359	14. 3
North Carolina.....	176	4. 0	237	5. 3	288	6. 5
North Dakota.....	4	. 6	2	. 3	9	1. 4
Ohio.....	141	1. 5	97	1. 0	135	1. 4
Oklahoma.....	45	2. 0	70	3. 1	58	2. 6
Oregon.....	23	1. 3	16	. 9	68	3. 9
Pennsylvania.....	129	1. 2	242	2. 2	434	3. 8
Rhode Island.....	4	. 5	7	. 8	9	1. 1
South Carolina.....	403	17. 5	274	11. 7	282	11. 9
South Dakota.....	5	. 7	10	1. 5	21	3. 1
Tennessee.....	173	5. 0	235	6. 8	394	11. 3
Texas.....	434	4. 9	445	4. 8	862	9. 2
Utah.....	10	1. 2	13	1. 5	5	. 6
Vermont.....	2	. 5	5	1. 4	5	1. 3
Virginia.....	136	3. 7	158	4. 2	242	6. 3
Washington.....	22	. 8	54	2. 0	182	6. 6
West Virginia.....	35	1. 8	33	1. 7	27	1. 4
Wisconsin.....	75	1. 9	54	1. 4	70	1. 7
Wyoming.....	4	1. 3	2	. 6	3	. 9

<sup>1</sup> Per 100,000 population.

mary and secondary syphilis cases reported in the United States.

In 1960, 13 additional cities reported significant increases in primary and secondary syphilis morbidity over the 1959 fiscal year morbidity. These were Houston, Atlanta, Dallas, Chicago, Jacksonville, Richmond, Fort Worth, Long Beach, Birmingham, Portland, Kansas City (Mo.), Detroit, and Cleveland.

These pronounced, widespread geographic increases in reported incidence seem to indicate

that the increase in the number of cases cannot be ascribed only to any isolated increased interest or improvement in reporting of private physician cases in these stages of the disease.

Canada reports a similar abrupt rise in the incidence of primary and secondary syphilis in 1959 (2). The increase in the Western Provincial Health Areas of British Columbia and Alberta coincides with the increases reported in the States of Oregon and Washington in the United States.

### Age and Sex

Since interest has been focused on teenage and young adult incidence, morbidity data have been reported to the Public Health Service by age and sex (3).

In 1959, consistent increases in primary and secondary syphilis cases occurred in all age groups. The largest increases occurred in the age groups 20–24, 25–29, and 30–34 years among males and in the groups 15–19, 20–24, and 25–29 years among females. An excess of male over female morbidity prevails in all age groups except in those less than 20 years old.

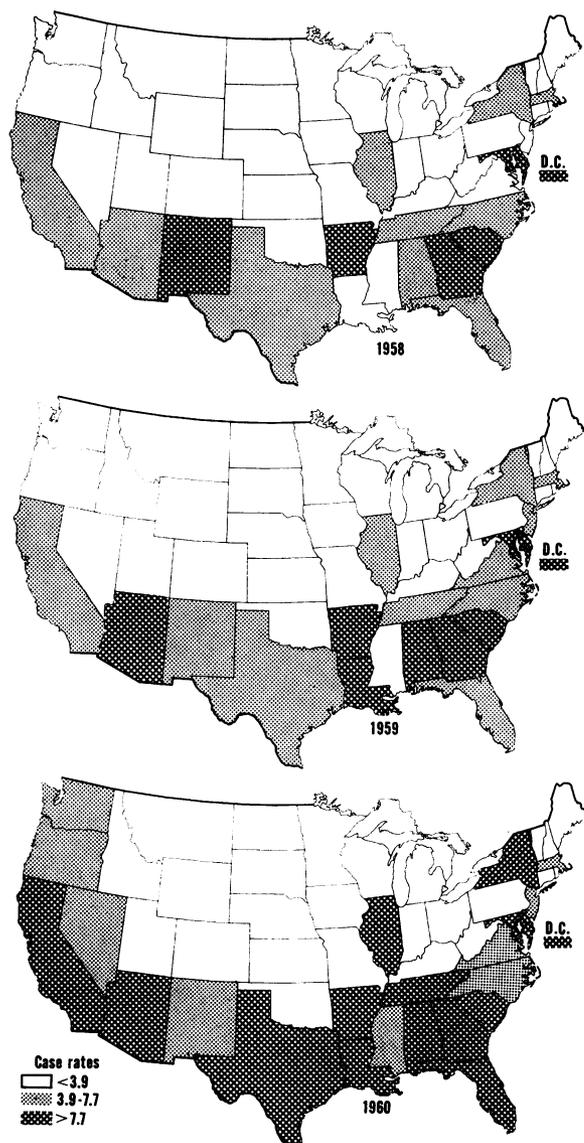
Overall, the increases have been greater among males than among females. Since 1956, the male-to-female ratio of primary and secondary syphilis cases reported by private physicians and clinics has been increasing steadily in the United States (table 4). Further epidemiologic studies are needed to determine the reasons for the increase in the male-to-female ratio of primary and secondary syphilis cases.

### Casefinding

Casefinding activities include contact tracing of private and public patients, cluster testing (testing of suspects named by patients and associates of patients or their contacts), selective mass testing, and the followup of positive serologic tests for syphilis from public and private laboratories.

Figure 3 shows the number of primary and secondary syphilis cases brought to treatment as a result of casefinding activities in the United States for the 1954 through 1960 period. In 1960, about one-half of the primary and secondary syphilis cases reported in the United

**Figure 2. Primary and secondary syphilis cases per 100,000 population, United States, fiscal years 1958, 1959, and 1960**



**Table 3. Primary and secondary syphilis reported by health departments in cities with population of 200,000 or more,<sup>1</sup> fiscal years 1958-60**

City	1958		1959		1960	
	Cases	Rate <sup>2</sup>	Cases	Rate <sup>2</sup>	Cases	Rate <sup>2</sup>
Akron	11	3.67	10	3.29	23	7.42
Atlanta	68	12.62	60	10.93	164	29.39
Baltimore	233	23.90	199	20.35	179	18.17
Birmingham	27	7.42	16	4.38	43	11.72
Boston	148	19.60	137	18.46	102	10.36
Buffalo	15	1.43	29	2.68	27	2.43
Chicago	526	13.74	584	15.23	832	21.60
Cincinnati	11	2.01	4	.73	15	2.70
Cleveland	22	2.32	16	1.69	33	3.46
Columbus	5	1.16	17	3.76	8	1.71
Dallas	69	11.06	41	6.36	182	27.20
Dayton	18	6.29	11	3.77	3	1.01
Denver	11	2.16	22	4.25	18	3.41
Detroit	25	1.29	35	1.79	78	4.00
Fort Worth	22	5.95	24	6.19	49	12.28
Honolulu	2	.69	12	3.90	5	1.53
Houston	143	19.54	196	21.54	350	37.96
Indianapolis	48	10.71	46	10.20	32	6.91
Jacksonville	35	15.35	25	10.82	43	18.30
Jersey City	20	6.62	22	7.28	23	7.62
Kansas City	11	2.23	8	1.61	40	7.69
Long Beach	5	1.63	3	.96	39	12.11
Los Angeles	223	9.75	274	11.77	423	17.64
Louisville	7	1.21	27	4.57	29	4.94
Memphis	40	7.31	81	14.73	36	6.30
Miami	40	15.33	90	32.61	192	64.00
Milwaukee	23	3.21	25	3.31	34	4.44
Minneapolis	10	1.83	4	.72	19	3.41
Newark	28	6.21	99	21.81	191	40.90
New Orleans	24	3.75	156	23.96	409	62.00
New York	802	9.91	1,059	13.60	2,091	26.91
Norfolk	23	7.57	37	12.01	48	16.00
Oakland	14	1.61	53	6.00	44	6.21
Oklahoma City	9	3.10	24	8.08	6	2.00
Omaha	4	1.42	1	.34	8	2.64
Philadelphia	82	3.76	150	6.79	312	14.14
Pittsburgh	27	1.69	37	2.25	50	3.03
Portland	6	1.47	9	2.18	39	9.42
Providence	4	1.61	4	1.74	5	2.17
Richmond	21	8.64	22	9.05	44	18.18
Rochester	16	4.60	10	2.87	19	5.49
St. Louis	36	4.10	25	2.87	33	3.78
St. Paul	1	.30	20	5.92	23	6.71
San Antonio	3	.51	1	.16	5	.78
San Diego	14	1.60	24	2.65	28	2.97
San Francisco	144	17.78	311	38.78	319	39.78
San Juan	25	5.47	32	7.00	36	7.88
Seattle	14	1.79	36	4.19	127	14.40
Syracuse	7	3.00	5	2.34	11	5.14
Toledo	3	.90	3	.89	8	2.12
Washington, D.C.	150	18.54	194	24.13	472	57.63
Worcester	2	.96	0	0	0	0

<sup>1</sup> 1950 census.

<sup>2</sup> Per 100,000 population.

**Table 4. Primary and secondary syphilis cases, by reporting source and sex, United States, 1956-59**

Calendar year	Private physicians			Clinics			All sources		
	Male	Female	Male-female ratio	Male	Female	Male-female ratio	Male	Female	Male-female ratio
1956.....	1,696	1,049	1.62	2,359	1,295	1.82	4,055	2,344	1.73
1957.....	1,634	921	1.77	2,579	1,447	1.78	4,213	2,368	1.78
1958.....	1,781	824	2.16	3,001	1,578	1.90	4,782	2,402	1.99
1959.....	2,779	1,019	2.73	4,064	1,936	2.10	6,843	2,955	2.32

States were brought to treatment as a result of the casefinding network.

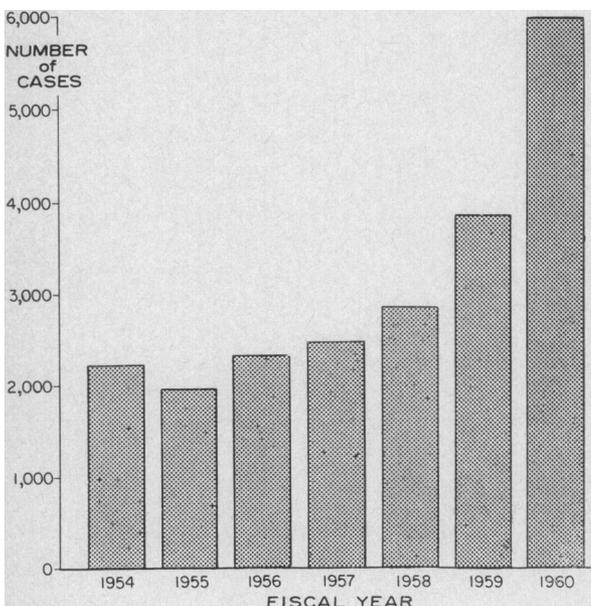
Since 1954, the percentage of primary and secondary syphilis cases brought to treatment involving some facet of casefinding has increased each year. In fiscal years 1959 and 1960 the increase was more pronounced than in previous years. The more intensified contact tracing of private physician infectious syphilis cases (in 1960, 65 percent of the cases reported by private physicians were interviewed), the increased followup of positive serology tests for syphilis from private laboratories, and application of cluster testing to a larger number of primary and secondary syphilis patients contributed largely to this upswing. In 1960, it is estimated

that the additional number of primary and secondary syphilis cases brought to treatment as a result of casefinding efforts was, at a maximum, about one-third to one-half of the national increase in reported primary and secondary syphilis cases.

Additional measures are needed in certain aspects of control programs to hasten an ultimate reduction in the incidence of primary and secondary syphilis in the United States:

- Interview all private patients for sex contacts and apply cluster testing to persons in their social environment.
- Reinterview all private patients for whom no source or spread contacts are identified.
- Extend the followup of positive serologic tests for syphilis to those performed by all private laboratories and hospitals.
- Extend the private physician visitation program to all States and particularly to all large metropolitan areas to strengthen the surveillance of infectious syphilis by private physicians and health departments.

**Figure 3. Primary and secondary syphilis cases brought to treatment as a result of casefinding activities, United States, 1954-60**



**Summary and Conclusions**

National data on reported cases of primary and secondary syphilis and on epidemiologic activity have been used as the bases for the following conclusions with respect to the increases and present control measures in these stages of syphilis.

Geographic distribution of reported cases of infectious syphilis by States, cities, and regions of the United States, by year, suggests that there has been an actual increase in the incidence of the disease. The extent of improvement in reporting by private physicians cannot be determined without baselines.

Intensified casefinding activities contributed to the national increase in reported cases of primary and secondary syphilis in the fiscal years 1959 and 1960. Extension of casefinding measures is needed to accelerate an ultimate, significant reduction in the incidence of primary and secondary syphilis.

Such data as have been obtained on reported incidence of primary and secondary syphilis indicate that the increases in the number of cases occurred in all sources of reporting, in all age groups, and for both sexes.

An increasing excess of male cases over fe-

male cases suggests the need for epidemiologic studies on the modes of transmission of syphilis.

#### REFERENCES

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- (2) Canada Department of National Health and Welfare: Fourteenth semiannual statistical report on the incidence of venereal disease in Canada. Ottawa, 1960.
- (3) Donohue, J. F., Gleeson, G. A., Jenkins, K. H., and Price, E. V.: Venereal disease among teenagers. *Pub. Health Rep.* 70: 453-461, May 1955.

### Fellowships for Health Workers

The World Health Organization will provide to U.S. citizens in 1962, at the request of the Government of the United States, a limited number of short-term fellowships in public health and related fields for the "improvement and expansion of health services" in the United States. Applicants must be engaged in full-time public health or educational work. Officers and employees of the U.S. Government are not eligible.

The applications will be screened by a WHO Fellowship Selection Committee established by the Surgeon General. The Committee will consider the ability of the individual, the proposed field of study, and the contribution which foreign study would make after the applicant has returned.

These fellowships will cover per diem and transportation, but except in very unusual circumstances, will be limited to short-term travel of 2 to 4 months. Employers of successful applicants are expected to endorse applications and to continue salary during the fellowship.

The deadline for the receipt of applications is January 1, 1962, but successful applicants probably cannot start their fellowships before May 1, 1962. Further information and application forms may be obtained from Dr. Howard M. Kline, Secretary, World Health Organization Fellowship Selection Committee, Public Health Service, Washington 25, D.C.